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Your ref: IML/LB/kz/42811.GB02
Application No: GB 0202030.3
Applicant: Vtech Communications Limited

Examiner: Adam Tucker
Tel: 01633 814745
Date of report: 18 December 2002

Latest date for reply: 18 June 2003

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Patents Act 1977 Examination Report under Section 18(3)

Basis of the examination

1. My examination has taken account of the amendments filed with your agent's letter of 2nd December 2002.

Added matter

2. Your amended application discloses subject matter which was not present in the original application. Any amendment which extends the original disclosure of an application is not allowable and should be removed or the application may be refused. The additional subject matter I have identified is:

2.1 "*Discarding* the first portion of encoded audio signal by the second device when the payload received contains errors" as claimed in claim 3 and "*discarding* only the contents of each data subset received with uncorrectable errors" as claimed in claim 8. No disclosure is made in the specification as filed of discarding portions of audio signals. The closest information disclosed is of "[detected] erroneous audio information [being] appropriately muted" on page 10 lines 1-2.

2.2 "A method for transmitting a digitally encoded audio signal from a first wireless device to a second wireless device via *an asynchronous connectionless link*" as claimed in claim 1, "a method for communicating a digitally encoded audio signal from a first wireless to a second wireless device via *a wireless communication link*" as claimed in claim 8, "a method for transmitting digitized audio data from a first wireless to a second wireless device *using a wireless communications link implementing a packet-based communications protocol*" as claimed in claim 10, "a method of forming a data packet for the transmission of a digital audio signal *using a packet-based synchronous connection-oriented communication link*" as claimed in claim 23 and "an apparatus for transmitting digitized audio data from a first wireless device to a second wireless device *using a packet-based wireless communications protocol*" as claimed in claim 24. No disclosure in the specification as filed is made of using any other types links other than Bluetooth (or more specifically Bluetooth derived) links for the communication between the first and second wireless devices. Therefore the scope of amended claims 1, 8, 10, 23 and 24 is outside that of the original

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description and is not supported by the original specification which is disclosed to relate on page 1 lines 6-9 to "the implementation of a cordless telephone system using the Bluetooth wireless digital communications standard".

- 2.3 "Generating an error detection code derived from the received encoded audio signal *which independently protects each one of a plurality of data subsets*" as claimed in claim 8. No disclosure is made in the specification as filed of the term "independently protecting" or of "data subsets".

3. Note also that I have not objected to the use of the term "listener" in claim 24 (last line of claims) as it seems implied that there be a listener in the system described considering telephone calls are carried out using this system. However, you may wish to remove this feature of your own accord and, for example, refer to a "user" as disclosed on page 7 line 9.

Plurality of invention

4. The common subject matter of the independent claims, claims 1, 8, 10, 23 and 24 is claimed in claim 8 (disregarding the added matter described above). This common subject matter between the current claims seems to be generating an error detection code for a first portion of a received encoded audio signal, generating a packet comprising the encoded audio signal and the generated error detection code, transmitting the packet from a first wireless device to a second wireless device via a wireless communications link and detecting that the packet is received without error using the error detection code in the second wireless device. This common subject matter is well known in the art, for example, as shown by GB 2314746 (see in particular Fig 2, 4 and 5) and WO 01/97385 (cited at the search stage). Therefore your current claims seem to define two separate inventions not forming a single inventive concept. The inventions are:

- I. Claims 1-7 characterised by flushing an asynchronous connectionless link when a first wireless device transmitter receives a second portion of encoded audio signal to transmit to a second wireless device.
- II. Claims 10-24 characterised by encoding audio data at a second bit rate, lower than a typical (first) bit rate, before transmission from a first to a second wireless device.

5. You will need to amend your claims, so that they relate to only one invention or inventive concept. You may also need to make consequential amendments to the

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description. You may wish to consider filing divisional applications. Any such applications should normally be filed no later than 3 months before the expiry of the period for putting the present application in order.

Scope of search

6. Disregarding the added matter identified in paragraphs 2.1, 2.2 and 2.3 above it is considered that the scope of the amended claims has been searched by the first search of this application which considered the common subject matter of original claims 1 and 10 and therefore related to: "Bluetooth communication comprising sending data packets comprising audio/voice data and an associated error detection code and receiving said packets and determining that the communication was received without error using the error codes".

Inventive step

7. After careful consideration of your application and further background searching performed, it seems that the two main concepts, identified on page 4, are obvious from the prior art. The Bluetooth specification contains two different types of links, namely synchronous connection oriented (SCO) links (which normally use no error detection or re-transmission of (voice) data) and asynchronous connectionless (ACL) links (which normally use an error detection scheme and also use flushing of the link when new data is received at the interface ready to send), and these are known to typically be used for voice and data communication respectively. Your invention seems to embody (i) using Bluetooth links normally used for data transmission as voice data transmission links and (ii) using Bluetooth links normally used for transmitting voice data and adding the use of an error detection scheme. As stated previously, after careful consideration, it seems that such use would be obvious to a person skilled in the art, but would be deemed undesirable due to the delay imposed by error checking and the associated re-transmission of data. Furthermore variable rate voice coding schemes are well known in the art, and although the current Bluetooth specification is currently restricted to using only one of two coding schemes both operating at 64kb/s I can see no reason why a reduced rate would not be obvious to use, as claimed in claims 10-24, such as the similar 32kb/s scheme used in HomeRF (see the "Bluetooth: Visions, Goals and Architecture" document enclosed section IV(C)). Therefore claims 1-24 (disregarding the added matter described above) seem obvious from the prior art.

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Support/Clarity

8. Claim 17 is currently unsupported by the description, in particular the description does not disclose determining that the second wireless device is capable of communicating using a non-standard link derived from a Bluetooth Synchronous Connection-Oriented (SCO) communications link. However it is noted that this feature was previously disclosed in original (as filed) claim 6. Therefore you should incorporate this feature into the description from original claim 6 so as to support claim 17 or remove/amend this claim.

9. It seems apparent that the feature of detecting that the transmitted data packet is received without errors in the second wireless device is an essential feature of the invention (otherwise there would be no need to add error detecting codes to the packets in the first place). Therefore it seems that this feature should be incorporated into each of the independent claims (NB: claim 8 already contains this feature).

Registered Trade Marks

10. Although it should preferably be avoided, if you wish to keep the references to the Registered Trade Mark "Bluetooth" in claims 2, 14, 17 and 18 of your specification, you should acknowledge that it is a Registered Trade Mark, possibly by using the abbreviation "(RTM)". If you do not insert an acknowledgment, I will/can do so in manuscript.

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